

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
US Department of Commerce  
United States Patent and Trademark  
Office, PCT  
2011 South Clark Place Room  
CP2/5C24  
Arlington, VA 22202  
ETATS-UNIS D'AMERIQUE  
in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 12 January 2001 (12.01.01)	
<b>International application No.</b> PCT/JP00/03003	<b>Applicant's or agent's file reference</b> P22869-P0
<b>International filing date</b> (day/month/year) 11 May 2000 (11.05.00)	<b>Priority date</b> (day/month/year) 13 May 1999 (13.05.99)
<b>Applicant</b> OGINO, Hiroyuki et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:  
30 November 2000 (30.11.00)

☐ in a notice effecting later election filed with the International Bureau on:  
\_\_\_\_\_

2. The election ☒ was  
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No.: (41-22) 740.14.35

Authorized officer

Kiwa Mpay

Telephone No.: (41-22) 338.83.38

# PATENT COOPERATION TREATY

## PCT

### INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>P22869-P0</b>	<b>FOR FURTHER ACTION</b> <small>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</small>	
International application No. <b>PCT/JP 00/ 03003</b>	International filing date (day/month/year) <b>11/05/2000</b>	(Earliest) Priority Date (day/month/year) <b>13/05/1999</b>
Applicant  <b>MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 3 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☒ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

1

☐ None of the figures.

## INTERNATIONAL SEARCH REPORT

International Application No

CT/JP 00/03003

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E05F15/00 H01L41/087

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E05F H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 300 732 A (STANDARD PROD LTD) 13 November 1996 (1996-11-13)	1-7, 9, 11-13, 20
Y	page 5, line 34 - page 6, line 13; claim 1; figure 2	8, 14, 16, 17, 21-23
X	DE 195 35 796 A (SAIAG IND SPA) 28 March 1996 (1996-03-28)	1, 6, 9, 11
A	column 3, line 38 - line 41 column 3, line 46 - line 50; figure 1	10
Y	WO 94 08119 A (ROCKWELL INTERNATIONAL CORP) 14 April 1994 (1994-04-14) column 3, line 23 - line 25 column 4, line 9 - line 16; figures 1-3	8
Y	DE 38 09 957 A (FELTEN & GUILLEAUME ENERGIE) 5 October 1989 (1989-10-05)	14
A	column 3, line 21 - line 34; figures 1-3	17
	--- -/--	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"Z" document member of the same patent family

Date of the actual completion of the international search

8 September 2000

Date of mailing of the international search report

15/09/2000

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2  
NL - 2280 HV Rijswijk  
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Fax: (+31-70) 340-3016

Authorized officer

Guillaume, G

## INTERNATIONAL SEARCH REPORT

International Application No

CT/JP 00/03003

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 4 943 757 A (BAUERNFEIND PETER ET AL) 24 July 1990 (1990-07-24) cited in the application column 3, line 15 - line 22; figures 1,2 ----	16,17
Y	US 5 051 672 A (YAGUCHI OSAMU) 24 September 1991 (1991-09-24) abstract column 1, line 5 -column 2, line 11 column 3, line 4 -column 4, line 23; figures 1,2 ----	21,22
Y	DE 44 20 361 A (ABB PATENT GMBH) 14 December 1995 (1995-12-14) abstract ----	23
A	CH 688 354 A (HUBER & SUHNER AG) 15 August 1997 (1997-08-15) column 3, line 45 - line 46; figures 1-4 -----	1

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

CT/JP 00/03003

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
GB 2300732	A	13-11-1996	NONE	
DE 19535796	A	28-03-1996	IT T0940745 A FR 2725405 A	26-03-1996 12-04-1996
WO 9408119	A	14-04-1994	NONE	
DE 3809957	A	05-10-1989	NONE	
US 4943757	A	24-07-1990	DE 3818456 A DE 58901925 D EP 0344401 A JP 1322081 A	14-12-1989 03-09-1992 06-12-1989 27-12-1989
US 5051672	A	24-09-1991	JP 2822074 B JP 3212190 A JP 2700500 B JP 3257338 A JP 2287277 A JP 2309222 A JP 2927825 B JP 3040791 A JP 3057933 A CA 2015618 A DE 4013624 A DE 4042496 C FR 2646459 A GB 2232255 A,B GB 2264825 A,B GB 2268644 A,B US 5166586 A	05-11-1998 17-09-1991 21-01-1998 15-11-1991 27-11-1990 25-12-1990 28-07-1999 21-02-1991 13-03-1991 28-10-1990 31-10-1990 07-03-1996 02-11-1990 05-12-1990 08-09-1993 12-01-1994 24-11-1992
DE 4420361	A	14-12-1995	EP 0691723 A	10-01-1996
CH 688354	A	15-08-1997	DE 9418117 U	02-02-1995

## INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification <sup>7</sup> : E05F 15/00, H01L 41/087		A1	(11) International Publication Number: WO 00/70179
			(43) International Publication Date: 23 November 2000 (23.11.00)
(21) International Application Number: PCT/JP00/03003		Yuko [JP/JP]; 71-2, Izumihara-cho, Yamatokoriyama-shi, Nara 639-1056 (JP).	
(22) International Filing Date: 11 May 2000 (11.05.00)		(74) Agents: IWAHASHI, Fumio et al.; Matsushita Electric Industrial Co., Ltd., 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501 (JP).	
(30) Priority Data:		(81) Designated States: CN, KR, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).	
11/132250 13 May 1999 (13.05.99) JP			
11/156121 3 June 1999 (03.06.99) JP			
11/235039 23 August 1999 (23.08.99) JP			
(71) Applicant (for all designated States except US): MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD. [JP/JP]; 1006, Oaza Kadoma, Kadoma-shi, Osaka 571-8501 (JP).		Published	
(72) Inventors; and		With international search report.	
(75) Inventors/Applicants (for US only): OGINO, Hiroyuki [JP/JP]; 2-35, Amagatsuji Nakamachi, Nara-shi, Nara 630-8024 (JP). NAKATANI, Naofumi [JP/JP]; 3-3-4-208, Nishimiyahara, Yodogawa-ku, Osaka-shi, Osaka 532-0004 (JP). YOSHINO, Koji [JP/JP]; 647-15, Nukatabekitamachi, Yamatokoriyama-shi, Nara 639-1037 (JP). NAGAI, Takeshi [JP/JP]; 1673-4, Owada, Kawai-cho, Kitakatsuragi-gun, Nara 636-0093 (JP). KANAZAWA, Narutoshi [JP/JP]; 5-9-409, Shinkanaoka-cho 2-cho, Sakai-shi, Osaka 591-8021 (JP). ITO, Masahiko [JP/JP]; 129-10-404, Shinga-cho, Kashihara-shi, Nara 634-0006 (JP). FUJII,		Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.	
(54) Title: PRESSURE-SENSITIVE SENSOR, OBJECT DETECTING DEVICE, AND OPENING-CLOSING DEVICE			
(57) Abstract			
<p>In a pressure-sensitive sensor for detecting seizure of an object in the window frame or the like, support means (13) is more flexible than a piezoelectric sensor (12), and the support means (13) is easily deformed together with the piezoelectric sensor (12) without impeding the deformation of the piezoelectric sensor (12), and an output signal is issued from the piezoelectric sensor (12) depending on this deformation. Accordingly, when detecting the contact of an object with a pressure-sensitive sensor (4) by a judging device, the pressure-sensitive sensor (4) for generating an output signal of a sufficient magnitude for detection can be presented.</p>			

**FOR THE PURPOSES OF INFORMATION ONLY**

Codes used to identify States party to the PCT on the front pages of pamphlets publishing international applications under the PCT.

AL	Albania	ES	Spain	LS	Lesotho	SI	Slovenia
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EE	Estonia						

## INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP 00/03003

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E05F15/00 H01L41/087

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Minimum documentation searched (classification system followed by classification symbols)

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Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

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A	column 3, line 21 - line 34; figures 1-3	17
	-/-	

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## \* Special categories of cited documents:

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- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \*&\* document member of the same patent family

Date of the actual completion of the international search

8 September 2000

Date of mailing of the international search report

15/09/2000

Name and mailing address of the ISA

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Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,  
Fax: (+31-70) 340-3016

Authorized officer

Guillaume, G



# INTERNATIONAL SEARCH REPORT

International Application No.

PCT/JP 00/03003

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

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Y	DE 44 20 361 A (ABB PATENT GMBH) 14 December 1995 (1995-12-14) abstract	23
A	CH 688 354 A (HUBER & SUHNER AG) 15 August 1997 (1997-08-15) column 3, line 45 - line 46; figures 1-4	1

# INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP 00/03003

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
GB 2300732 A	13-11-1996	NONE	
DE 19535796 A	28-03-1996	IT T0940745 A FR 2725405 A	26-03-1996 12-04-1996
WO 9408119 A	14-04-1994	NONE	
DE 3809957 A	05-10-1989	NONE	
US 4943757 A	24-07-1990	DE 3818456 A DE 58901925 D EP 0344401 A JP 1322081 A	14-12-1989 03-09-1992 06-12-1989 27-12-1989
US 5051672 A	24-09-1991	JP 2822074 B JP 3212190 A JP 2700500 B JP 3257338 A JP 2287277 A JP 2309222 A JP 2927825 B JP 3040791 A JP 3057933 A CA 2015618 A DE 4013624 A DE 4042496 C FR 2646459 A GB 2232255 A,B GB 2264825 A,B GB 2268644 A,B US 5166586 A	05-11-1998 17-09-1991 21-01-1998 15-11-1991 27-11-1990 25-12-1990 28-07-1999 21-02-1991 13-03-1991 28-10-1990 31-10-1990 07-03-1996 02-11-1990 05-12-1990 08-09-1993 12-01-1994 24-11-1992
DE 4420361 A	14-12-1995	EP 0691723 A	10-01-1996
CH 688354 A	15-08-1997	DE 9418117 U	02-02-1995

REC'D 17 MAY 2001

WIPO

PCT

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference PCT1269-011/no	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)
International application No. PCT/JP00/03003	International filing date (day/month/year) 11/05/2000	Priority date (day/month/year) 13/05/1999
International Patent Classification (IPC) or national classification and IPC E05F15/00		
Applicant MATSUSHITA ELECTRIC INDUSTRIAL CO. LTD.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.


2. This REPORT consists of a total of 4 sheets, including this cover sheet.

- ☒ This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 1 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand  30/11/2000	Date of completion of this report  15.05.2001
Name and mailing address of the international preliminary examining authority:   European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer  Gesell, J  Telephone No. +49 89 2399 2712



# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/JP00/03003

## I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17)*):

### Description, pages:

1-42 as originally filed

### Claims, No.:

2-23 as originally filed

1 as received on 17/04/2001 with letter of 17/04/2001

### Drawings, sheets:

1/27-27/27 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT**

International application No. PCT/JP00/03003

- ☐ the description,      pages:  
☐ the claims,      Nos.:  
☐ the drawings,      sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims	1 -23
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1 -23
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1 -23
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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International application No. PCT/JP00/03003

**PARA. V:**

**GB-A-2 300 732** (figures, abstract, claims) discloses a pressure sensor, including a piezo-electric cable, mounted in an elastomeric window sealing 17 (weather -strip) above a hollow part 18.

The state of the art, however, gives no indication that the relative flexibility of the cable and its mounting should be adjusted such that the mounting and support of the cable should be more flexible than the cable.

On the contrary **DE 195 35 796 A** (SAIAG IND SPA) teaches that the piezo -cable should be mounted in on a rigid support.

International Patent Application No. PCT/JP00/03003  
Applicant: MATSUSHITA ELECTRIC INDUSTRIAL CO., LTD.  
PCT 1269-01182/we  
Date: April 17, 2001

## NEW CLAIM 1

1. A pressure-sensitive sensor (4) disposed at at least one of an opening (200) and an opening-closing unit (3) for opening and closing said opening, used for detecting contact of an object and preventing seizure of the object between said opening and said opening-closing unit, said pressure-sensitive sensor comprising:

pressure-sensitive means (12) for generating an output signal depending on deformation; and

support means (13) for supporting said pressure-sensitive means at at least one of said opening and said opening-closing unit,

wherein said support means has a greater flexibility than said pressure-sensitive means.

# INTERNATIONAL SEARCH REPORT

International Application No

/JP 00/03003

## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 E05F15/00 H01L41/087

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 E05F H01L

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	GB 2 300 732 A (STANDARD PROD LTD) 13 November 1996 (1996-11-13)	1-7, 9, 11-13, 20
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X	DE 195 35 796 A (SAIAG IND SPA) 28 March 1996 (1996-03-28)	1, 6, 9, 11
A	column 3, line 38 - line 41 column 3, line 46 - line 50; figure 1	10
Y	WO 94 08119 A (ROCKWELL INTERNATIONAL CORP) 14 April 1994 (1994-04-14)	8
	column 3, line 23 - line 25 column 4, line 9 - line 16; figures 1-3	
Y	DE 38 09 957 A (FELTEN & GUILLEAUME ENERGIE) 5 October 1989 (1989-10-05)	14
A	column 3, line 21 - line 34; figures 1-3	17
	-/--	



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

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"A" document defining the general state of the art which is not considered to be of particular relevance

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"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

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Date of the actual completion of the international search

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## INTERNATIONAL SEARCH REPORT

International Application No

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